

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Previously Presented) A method of manufacturing a semiconductor device, comprising:
 - supplying one reactant to a substrate;
 - supplying an other reactant to the substrate; and
 - processing the substrate by alternately repeating the above steps for a plurality of times,
wherein both or either of the reactants contains a source gas obtained by vaporizing a liquid source in a vaporization section,
an injecting amount per one injecting operation of the liquid source to the vaporization section is fixed to be smaller than an amount of the liquid source required for one supply operation of the source gas to the substrate, and
the liquid source is controlled to be intermittently injected to the vaporization section and the amount of the liquid source required for the one supply operation is controlled by the number of injection of the injecting operation.

2-3. (Canceled)

4. (Previously Presented) The method of manufacturing a semiconductor device according to claim 1, wherein the process of the step of processing the substrate is an ALD processing to form a film with a desired thickness by conducting a control of repeating for a plurality of times the steps of:

- supplying the one reactant to the substrate so as to be absorbed thereon; and
 - supplying the other reactant to the reactant thus absorbed on the substrate to cause reaction, thereby forming a film.

5. (Withdrawn-Currently Amended) A substrate processing apparatus, comprising:

- a processing chamber-for configured to process processing a substrate;
- a container-for configured to contain containing a liquid source;
- a vaporizer having a vaporization section for vaporizing the liquid source;
- a liquid source supply pipe-for configured to supply supplying the liquid source contained in the container to the vaporizer;
- a source gas supply pipe-for configured to supply supplying the source gas obtained by vaporizing in the vaporizer into the processing chamber;
- an injection drive control mechanism-for controlling configured so that an injection amount per one injecting operation of the liquid source to the vaporization section is fixed to be smaller than an amount of the liquid source required for one supply operation of the source gas vaporized at the vaporization section to the substrate, and configured to intermittently inject the liquid source-is intermittently injected to the vaporization section and configured so that the amount of the liquid source required for the one supply operation is controlled by the number of injection of the injecting operation;
- a supply pipe-for configured to supply supplying a reactant different from the source gas into the processing chamber; and
- a controller-for controlling so as configured to repeat the supply of the source gas to the processing chamber and the supply of the reactant to the processing chamber, alternately for a plurality of times.

6-7. (Canceled)

8. (Withdrawn) The substrate processing apparatus according to claim 5, wherein the controller has a function to control so that the source gas is supplied into the processing chamber and is absorbed on the substrate, then the reactant is supplied into the

processing chamber and is allowed to cause reaction with the source gas absorbed on the substrate to form a film, and by repeating these steps for a plurality of times, film deposition is performed on the substrate by an ALD process.

9. (Withdrawn) The substrate processing apparatus according to claim 5, wherein the controller further has a function to previously measure the correlation between a pressure for feeding the liquid source to the vaporization section and the injecting amount of the liquid source per one injecting operation to the vaporization section, and correct the injecting amount per one injecting operation based on the correlation thus obtained.

10. (Withdrawn) The substrate processing apparatus according to claim 5, wherein a liquid flow meter is provided between the vaporization section and the container, and the injection drive control mechanism has a flow rate adjusting mechanism electrically connected to the liquid flow meter, and the controller calculates an integrated flow rate of a certain time period or a certain constant number of injection based on an electrical signal from the liquid flow meter, monitors the integrated flow rate thus obtained with passage of time, and adjusts a change in the injecting amount to the vaporization section per one injecting operation with passage of time by the flow rate adjusting mechanism.

11. (Withdrawn) The substrate processing apparatus according to claim 5, wherein the vaporizer is constituted as an injection type vaporizer integrally comprising the vaporization section, a flow passage for feeding the liquid source to the vaporization section, and a valve element for controlling the injection/non-injection of the liquid source to the vaporization section by opening/closing the valve, and controlling the flow rate of the liquid source fed to the flow passage at controlling the valve to open by adjusting an opening degree of the valve, wherein the adjustment of the opening degree and opening/closing of the valve element is performed by the injection drive control mechanism.

12. (Previously Presented) The method of manufacturing a semiconductor device according to claim 1, wherein the step of processing the substrate includes the step of supplying said one reactant to the substrate, the step of removing extra of said one reactant, the step of supplying said other reactant to the substrate, and the step of removing extra of said other reactant, as one cycle, and this cycle is repeated for a plurality of times.

13. (Previously Presented) A method of manufacturing a semiconductor device, comprising the steps of:

supplying a source gas obtained by vaporizing a liquid source by a vaporization section to a substrate;

supplying a reactant different from the source gas to the substrate; and

processing the substrate by repeating these steps for a plurality of times, wherein an injecting amount per one injecting operation of the liquid source to the vaporization section is fixed to be smaller than an amount of the liquid source required for one supply operation of the source gas to the substrate, and the liquid source is controlled to be intermittently injected to the vaporization section and the amount of the liquid source required for the one supply operation is controlled by the number of injection of the injecting operation.

14. (Previously Presented) The method of manufacturing a semiconductor device according to claim 13, wherein the step of processing the substrate includes the step of supplying said source gas to the substrate, the step of removing extra of said source gas, the step of supplying said reactant to the substrate, and the step of removing extra of said reactant as one cycle, and this cycle is repeated for a plurality of times.